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Brown (C. W.)
ANALYSIS OF

ONE HUNDRED AND NINE CASES OF RHEUMATISM

TREATED WITH

SALICYLIC ACID AND SALICINE.

(WITH TABLES.)

By C. W. BROWN, M. D.,

LATE HOUSE PHYSICIAN AT THE BOSTON CITY HOSPITAL.

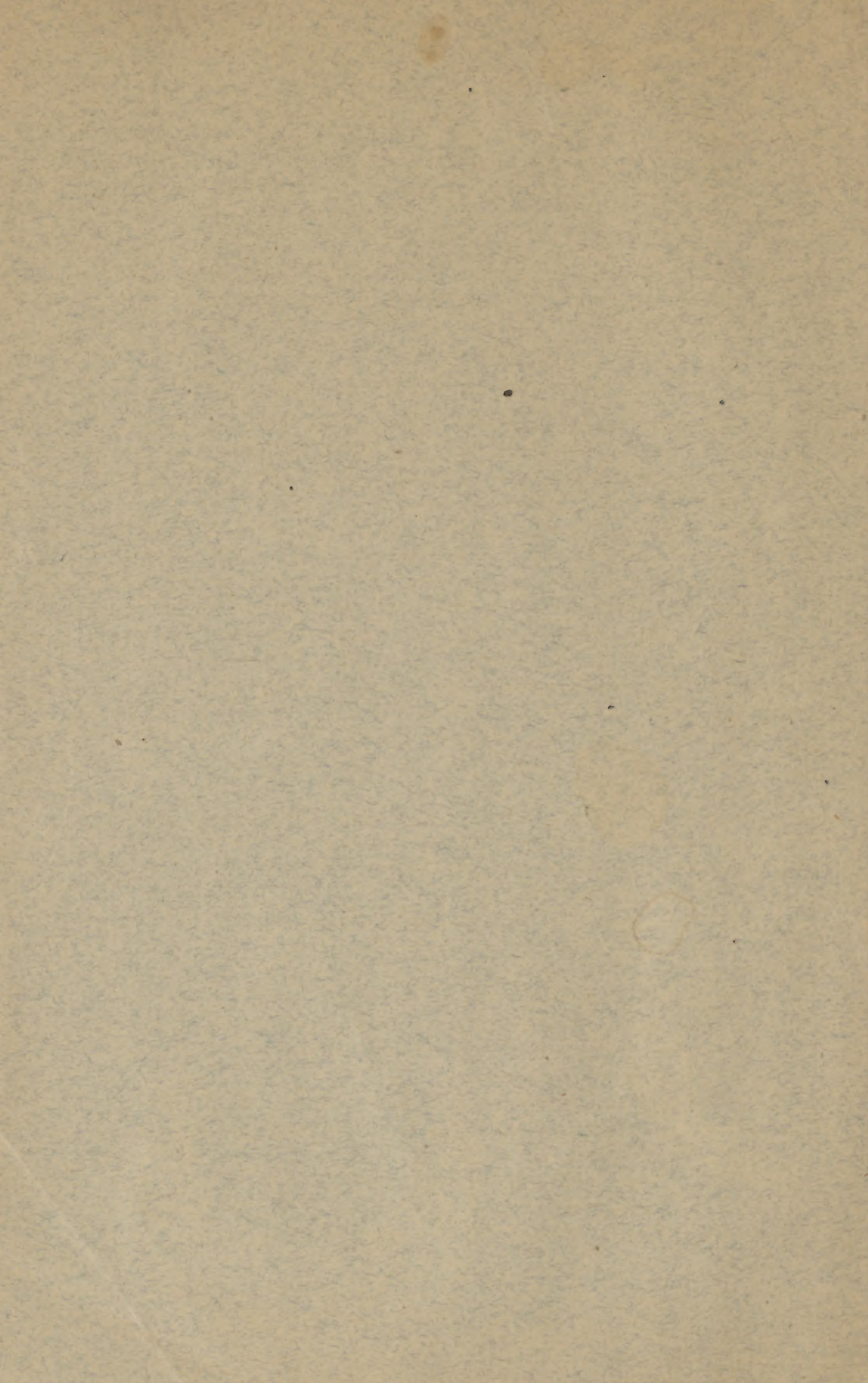


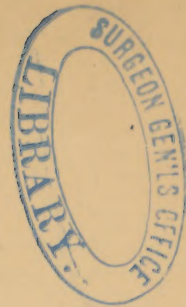
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ANALYSIS OF ONE HUNDRED AND NINE CASES OF RHEUMATISM TREATED WITH SALICYLIC ACID AND SALICINE.
(WITH TABLES.)

BY C. W. BROWN, M. D.,

Late House Physician at the Boston City Hospital.

A TABULATED history is presented below of one hundred and nine cases of rheumatism treated with salicylic acid and salicine, at the Boston City Hospital, in the service of Drs. Borland, Blake, Curtis, Edes, Draper, Doe, Lyman, and Stedman.

Salicylic acid was first prescribed in rheumatism in this hospital on February 12, 1876, by Dr. J. N. Borland, and has been used in nearly all of the cases which have entered since. Our cases are not selected, but represent all those of rheumatism which have entered the hospital since the date mentioned except those of undoubted chronic character; fifty-nine were males, fifty females; thirty-nine had out-door occupations or those necessitating exposure; seventy, in-door or unexposed occupations; fifty-seven suffered from the first attack, thirty-two from the second, ten from the third, one each from the fourth and fifth, three from the seventh, three from "several," and two from "many" attacks.

In thirty-eight of the sixty-three cases observed which were treated with salicylic acid, the heart was normal throughout. In twenty-four the heart was affected at entrance. In two the cardiac disease disappeared while in the hospital.

In Cases 9, 25, and 27, the heart became affected after entrance. In Case 9 the heart was not affected until after the relapse, but the murmur became well pronounced before discharge.

Case 25 had complained of pain over præcordia and had a rapid and weak heart, with dyspnœa, from the time of entrance, but no abnormal sound was detected upon repeated examination until the eleventh day or long after convalescence.

Case 27 is interesting from the development of pericarditis after the rheumatic symptoms had wholly disappeared, although the right hand became affected again four days later. The autopsy showed the endocarditis present upon entrance to have been of recent date.

It is fair to assume that the heart was normal in a very large proportion of the cases in which its condition was not recorded. But upon

the basis of sixty-three cases, the heart became affected after entrance in only 4.76 per cent., while under the alkaline treatment, in the series of cases reported by Dr. J. G. Blake,¹ $13\frac{2}{3}$ per cent. developed heart affections after entrance.

The average time to relief, that is, to the hour when the symptoms were distinctly ameliorated, was $1.46+$ days, varying from three hours to four days. This is probably much too high, as in very few cases were more than ten to fifteen doses needed before marked benefit was experienced. The average time to complete cessation of pain was $2.85+$ days, varying from twelve hours to fifteen days.

The average amount of acid taken to produce relief was one hundred and fifty-four grains; the quantity varied from thirty to two hundred and ten grains.

The amount required to produce complete relief from pain and mobility of the joints was 531.22 grains to each patient; to each attack, 343.73 grains. Deducting the three largest amounts taken, 880, 940, and 2250 grains, the average to each patient was 400.84 grains.

The average time during which the acid was taken by each patient was 6.22 days, varying from one day to thirty-one days. Excluding Cases 1, 19, 26, 36, and 103, the average number of days each patient was in the hospital was 18, varying from three to fifty-nine days.

Case 1 is excluded because of the short time the acid was taken, the others because of their termination in chronic rheumatic arthritis. The acid, according to the records, produced no relief in three cases. In the first but five doses or fifty grains were given which is ordinarily too small an amount to be of service. Case 5 was subacute, in a debilitated subject, a variety not so easily controlled by the acid as a more acute form, and the trouble was probably due more to debility than to a true rheumatic state. Case 6 took but thirty grains a day, too small an amount to affect an acute case.

Two cases died, one from pericarditis and one from cerebral complications. Eighteen cases had one relapse, three had two, and one had five while in the hospital. There were very few cases in which there were not occasional pains for a time after the omission of the acid.

Nausea and vomiting were noted in twenty cases (in one case complicated by pregnancy), or in 18.8 per cent. Burning in the stomach occurred in one case. Headache was noted in six, ringing in the ears in nineteen, and deafness in ten cases; numbness and prickling of the affected parts were observed in three cases, in one extending to all parts of the body and in another persisting for two days after omission of the acid.

Delirium occurred in three cases, one possibly being delirium tremens. Was the delirium in the others caused by salicylic acid?

¹ Boston City Hospital Reports, First Series.

Nearly all of the cases in which nervous symptoms were manifested were those of persons in poor physical condition.

Pneumonia occurred in three cases; iritis, synovitis, herpes labialis, purpura, uterine hæmorrhage, sore throat, and conjunctivitis complicated one case each.

The universal result of the acid, when given in full doses, in acute cases was to cause a fall of temperature, but never much below the normal point. The effect on the pulse and respiration was less marked, as they usually fell less rapidly. The pulse rate often increased for a time in weak or debilitated subjects.

Experience has shown that the acid is much better adapted to acute than to other varieties of rheumatism. The following record of actual cases of acute rheumatism, treated by ten-grain doses hourly, is a fair example of the effect on pulse, temperature, and respiration.

(1.) Acid begun at six P. M. day of entrance. P. M. P. 120, T. 102.2°, R. 32. A. M. P. 96, T. 98°, R. 26. P. M. P. 98, T. 98.7°, R. 28.

(2.) Acid begun at one P. M. P. 100, T. 103.2°, R. 28. A. M. P. 92, T. 99.8°, R. 24. P. M. P. 88, T. 99°, R. 24.

(3.) Acid begun at six P. M. P. 116, T. 103.8°, R. 28. A. M. P. 124, T. 100.6°, R. 28. P. M. P. 112, T. 99.4°, R. 24. Most patients perspired freely, a few profusely, while under treatment, but there were no cases of collapse or even of marked prostration.

The case whose temperature is given last was a poorly fed, debilitated subject, who took ten grains of the acid for twenty-seven consecutive hours. There were tinnitus aurium, deafness, very profuse perspiration, which continued several hours after the omission of treatment, and a sense of general weakness. This was the most marked case of prostration, but the patient soon rallied from it.

Case 37 is remarkable for the number of relapses and the amount of acid taken. The patient was a large robust Englishman, otherwise in vigorous health. While under treatment for the first attack there was slight deafness and ringing in the ears. With the last relapse there were similar symptoms and slight nausea. There were no other unpleasant symptoms and the appetite was excellent throughout.

Many cases were left in a poor general condition after treatment, with more or less complete loss of appetite; to recover from this state often required more time than to produce a cure of the rheumatic symptoms.

The patients were usually placed upon treatment by the house physician soon after entrance, the common dose being ten grains every hour while awake, for twelve to thirty-six hours, when the symptoms were wholly or partially relieved. Then the practice has varied, the acid being omitted altogether or reduced to ten grains every two or

three hours for a time, to be again reduced and finally omitted in from three days upward. Usually no opiates were given and no attention was paid to the condition of the bowels. The acid was first taken in wafers, but it occasionally happened that an awkward patient would break one in his mouth and release the pungent acid, producing very unpleasant sensations and perhaps a refusal to take any more. A substitute was found, in the service of Dr. Blake, in pills made with honey or molasses, containing $3\frac{1}{2}$ grains each, about the size of a compound cathartic pill. They have been much more satisfactory and have been almost exclusively used since. The various solvents, soda and ammonia salts, glycerine, etc., have been but little used.

The number of cases treated with salicine is too small to base any definite conclusion upon as regards its value when compared with salicylic acid or any other method of treatment. It certainly acts more slowly than the acid. It has been used in six cases during part of the treatment and in three during the whole. The dose varied from five to fifteen grains per hour, and was taken with no bad effect; in fact, those who took it throughout had excellent appetites and made a rapid and thorough convalescence, instead of being left in a generally poor condition with no appetite, as was too often the case with those treated with salicylic acid. Of the six cases who did not take salicine continuously until recovery, four were relieved, and two were not relieved after taking it from two to four days. The three cases who took it throughout were acute, of moderate severity. The heart was normal in all. The average time to relief was $2\frac{1}{2}$ days; to complete relief, $6\frac{1}{2}$ days; the average amount taken was $346\frac{2}{3}$ grains. The average time in hospital was $13\frac{1}{2}$ days. There was relapse in one case. Because of its better general effect on the patient, salicine seems to merit a more extended trial.

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED.

| NUMBER | NAME | AGE. | SEX | OCCUPATION. | NUMBER OF ATTACK. | STATE OF HEART AT ENTRANCE. | STATE OF HEART WHILE IN HOSPITAL AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC. | CONDITION ON DISCHARGE. |
|--------|-------|------|-----|---------------|---------------------|-----------------------------|--|-----------------|----------------------------|--|-------------------|---|-------------------------|
| 1 | C. E. | 25 | M. | Cook. | Second. | Aortic and mitral murmurs. | At discharge, double mitral. | Acute. | 8 | Took but 50 grs. acid, with no effect. Other treatment alkaline. | 57 | 5 hours. | Much relieved. |
| 2 | C. W. | 23 | M. | Waiter. | First. ¹ | Normal. | Normal. | Subacute. | 20 | Alkaline treatment 20 days, with some relief. Acid 24 hours, with complete relief. | 45 ² | Acid 5 days; slight nausea. | Well. |
| 3 | C. R. | 37 | F. | Laundress. | " ³ | " | " | " | 4 | No treatment 8 days. Acid 1 day, with relief. | 27 ⁴ | Acid 7 days; headache. | Relieved. |
| 4 | A. A. | 35 | F. | Seamstress. | Seventh. | Aortic systolic murmur. | Not examined. | Acute. | 3 | Relief in 3 hours after use of acid. | 15 | Acid 3 days; ringing in ears; slight nausea. | Well. |
| 5 | N. D. | 30 | F. | Domestic. | Third. | Mitral systolic murmur. | Mitral systolic murmur. | Subacute. | 5 | Acid 3 days, with no relief. Iron and rubina, with relief. | 53 | Acid 3 days; headache. | " |
| 6 | J. S. | 20 | M. | Hat maker. | First. | Normal. | Normal. | Acute. | 7 | Acid 2½ days, 30 grs. a day, with no relief. Alkalies and opiates gave relief in 7 days. | 41 | Acid 2½ days. | " |
| 7 | E. H. | 35 | M. | Agent. | Seventh. | " | " | Subacute. | 4 | Acid 1 day; caused nausea and vomiting. Alkalies 6 days, with relief. | 22 | Acid 7 days; convalescing on entrance; was well and helped in ward some time before discharge. | " |
| 8 | E. G. | 39 | M. | Druggist. | First. ⁵ | " | " | Acute. | 61 | Relief in 1 day; complete in 7 days. | 30 | Acid 13 days; slight recurrence of symptoms. | " |
| 9 | L. D. | 21 | M. | Laborer. | " | " | Heart irregular. Mitral systolic murmur. | " | 5 | Complete relief in 1 day. | 59 | Acid 58 days; subacute symptoms returned for 8 days after a relapse because of exposure; debilitated; tonics and opiates. | Nearly well. |
| 10 | B. E. | 34 | F. | Housewife. | " | " | Normal. | " | 7 | Complete relief in 1 day. | 13 | Acid 13 days; slight recurrence of symptoms. | Well. |
| 11 | B. E. | 34 | F. | " | Second. | " | " | " | 7 | (1.) Complete relief in 2 days. (2.) Relief in 2 days; complete in 8 days. | 30 | (1.) Acid 2 days. (2.) Acid 5 days; recurrence; well - marked coexistent phthisis; tonics, etc. | Well of Rheumatism. |
| 12 | J. B. | 25 | F. | Domestic. | " | " | " | Subacute. | 14 | Relief in 1 day; complete in 6 days. | 8 | Acid 8 days. | Well. |
| 13 | W. H. | 35 | M. | Wheelwright. | " | " | " | Acute. | 15 | Complete relief in 1 day. | 11 | Acid 4 days; severe case; rapid recovery. | " |
| 14 | I. C. | 39 | M. | Longshoreman. | First. | " | " | Subacute. | 20 | Relief in 1 day; complete in 2 days. | 12 | Acid 12 days; mild case. | " |

¹ Family rheumatic. ² 25 days after beginning acid. ³ Family rheumatic. ⁴ 19 after acid. ⁵ Family rheumatic. ⁶ Figures in parentheses denote relapses.

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED (Continued)

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACKS. | STATE OF HEART AT ENTRANCE. | STATE OF HEART WHILE IN HOSPITAL, AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC. | CONDITION ON DISCHARGE. |
|---------|-------|------|------|-------------|--------------------|--|---|-----------------------------|---------------------------------------|---|-------------------|--|-------------------------|
| 15 | M. R. | 22 | M. | Gas fitter. | Second. | Normal. | Normal. | Acute. | 5 | Relief in 1 day; complete in 3 days. | 11 | Acid 10 days. | Well. |
| 16 | J. W. | 44 | F. | Domestic. | " | " | " | Subacute. | 21 | Complete relief in 2 days. | 17 | Acid 15 days; mild case. | " |
| 17 | J. C. | 25 | M. | Laborer. | First. | Mitral systolic murmur. | Murmur more distinct. | Acute. | 21 | Relief in 2 days; complete in 4 days. | 18 | Acid 8 days; adynamic symptoms; quins. | " |
| 18 | J. D. | 30 | M. | Engaver. | Third. | Aortic valve normal. Mitral systolic murmur. | Heart rapid; aortic normal; mitral systolic murmur. | " | 6 | Salicine 3 days, with little permanent relief; relief after 80 grs. acid. | 5 | Acid 2 days; cerebral symptoms; sudden great rise of temperature; death. Reported in full in JOURNAL, August 6, 1876. | Dead. |
| 19 | M. F. | 34 | F. | Housewife. | First. | Not examined. | Mitral systolic murmur. | " | 28 | (1.) Relief from 12 doses. | 45 | (1.) Acid 2 days, 210 grains; ringing in ears. (2.) Acid 1 day; slight recurrence; terminated in chronic arthritis of wrist-joint. | Relieved |
| 20 | F. M. | 22 | F. | " | " | Normal. | Normal. | " | 8 | Relief in one day. | 20 | Acid 2 days; pregnant; acid caused nausea and vomiting, and was therefore omitted; alkalies; tendency to chronic swelling in feet. | Well. |
| 21 | C. H. | 23 | M. | Teamster. | " | " | " | " | 23 | (1.) Relief in 1 day, 150 grs.; complete in 2 days. (2.) Recurrence. Relief complete in 1 day, 100 grs. | 13 | (1.) Acid 4 days, 400 grains; tinnitus aurium. (2.) Acid 2 days; no nausea. | Well. |
| 22 | C. P. | 38 | F. | Housewife. | " | " | " | " | 23 | (1.) Relief in 1 day; complete in 2 days. (2.) Relief in 2 days; complete in 8 days. (3.) Relief in 2 days. Became chronic. | 60 | (1.) Acid 3 days, grains 370; tinnitus aurium. (2.) Acid 4 days, grains 400. (3.) Acid 8 days, grains 580; chronic arthritis of ankle-joint; tonics, rest, etc. | Well of rheumatism. |
| 23 | M. C. | 18 | F. | Weaver. | Third. | Enlarged; cardiac dullness; loud mitral systolic murmur. | Same at discharge. | Chronic, with acute attack. | Chronic several months; acute 3 days. | Relief in 1 day; complete in 4 days. | 60 | Acid 1 day, 200 grains; nausea, vomiting, rigors in ears, deafness, numbness, and pricking of affected parts, which persisted two days after omission of acid; patient much debilitated. | Well of rheumatism. |
| 24 | D. G. | 20 | F. | Domestic. | " | Normal. | Normal. | Acute. | 14 | Complete relief in 2 days. | 7 | Acid 2 days; very slight return of pain. | Well. |

| H. R. | 21 | F. | Domestic. | First. ² | Pain over præ-cordis; heart rapid and weak; sounds normal; dyspnoea. | Soft mitral systolic murmur. | Acute. | 10 | Relief in 1 day; complete in 2 days. | 60 | Acid 3 days; tonics. | Well. |
|-------|-------|----|-----------|---------------------|--|---|--------|----|---|----|---|-----------|
| 25 | M. W. | 24 | F. | Second. | Normal. | Normal. | " | 7 | (1.) Relief in 2 days; complete in 2½ days. (2.) Relief in 2 days. (3.) Relief in 2 days. | 60 | (1.) Acid 2½ days, 300 grains; ringing in ears. (2.) Acid 2 days, 210 grains; no head symptoms. (3.) Acid 3 days; no head symptoms. Afterward chronic; crepitus in knees. Acid 30 hours; ringing in ears; nausea; 24 days after entrance got out of bed and exerted himself, causing violent palpitation, dyspnoea, bloody sputa, and death. | Relieved. |
| 27 | J. A. | 16 | M. | Newsboy. | First. | Loud mitral systolic murmur; dyspnoea. | " | 5 | Relief after 8 doses; complete after 12 doses. | 24 | | Dead. |
| 28 | M. K. | 22 | M. | Plumber. | " | Normal. | " | 5 | Relief after 12 doses; complete after 24 in 30 hours. | 6 | | Well. |
| 29 | S. S. | 13 | F. | Domestic. | " | Blowing systolic murmur at apex. | " | 4 | Relief in 15 hours, 126 grs.; complete in 1½ days. | 21 | | " |
| 30 | J. I. | 34 | M. | Car driver. | Fourth. | Normal. | " | 7 | Relief in 1 day, 160 grs.; complete in 27 hours; 23 doses. | 19 | | " |
| 31 | C. C. | 25 | F. | Domestic. | First. | " | " | 7 | Relief after 16 doses, 160 grs.; complete relief in 35 hours. | 39 | | Relieved. |
| 32 | B. C. | 46 | M. | Junk dealer. | Second. | " | " | 8 | Relief in 17 hours, 170 grs.; complete in 27 hours. | 31 | | Well. |
| 33 | J. G. | 19 | M. | Plumber. | " | Not examined. | " | 4 | Complete relief in 3 days. | 24 | | " |
| 34 | M. C. | 22 | M. | " | " | Normal. | " | 5 | Relief in 2 days; complete in 4 days. | 11 | | " |
| 35 | M. G. | 29 | F. | Housewife. | " | Heart tumultuous; double mitral murmur. | " | 35 | Relief in 1 day; complete in 3 days. | 3 | | " |
| 36 | L. M. | 20 | F. | Domestic. | First. | Normal. | " | 14 | Complete relief in 2 days. | 63 | | Relieved. |

¹ 24 before attack, 26 after. ² Father died of heart disease.

Rheumatism Treated with Salicylic Acid.

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED (Continued).

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACK. | STATE OF HEART AT ENTRANCE. | STATE OF HEART WHILE IN HOSPITAL, AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC. | CONDITION ON DISCHARGE. |
|---------|----------|------|------|-------------|-------------------|---|---|-------------------|----------------------------|--|-------------------|--|-------------------------|
| 37 | R. F. | 35 | M. | Waiter. | Seventh. | Normal. | Normal | Acute. | 5 | (1.) Relief in 1 day, 150 grs.; complete in 2 days. (2.) Complete relief in 1 day. | 48 | (1.) Acid 2 days, 270 grains; slight deafness and ringing in ears. (2.) Acid 1 day, 170 grains; in intervals ammonia and soda, with no effect. (3.) Acid 3 days, 310 grains. (4.) Acid 3 days, 330 grains; good appetite throughout. (5.) Acid 3 days, 280 grains. (6.) Acid 10 days, 940 grains; slight nausea; ringing in ears. Total amount taken, 2250 grains. | Well. |
| 38 | J. W. | 31 | M. | Shoemaker. | Second. | Roughening of first sound at apex. | Roughening of heart throughout; short pre-systolic murmur at apex; at discharge roughness alone remained. | " | 21 | Relief after 8 doses; renewed twice after, but the mental condition was such that the effect on pain is not known. | 60 | (1.) Acid 3 days; was renewed twice; delirious the day after taking acid; temperature rose again; tongue became dry; low, muttering delirium; carphologia; temperature remained from normal to 101° to 102° for a month; slow convalescence. Acid 32 hours; slight nausea with first few doses; tonics. | " |
| 39 | J. S. | 21 | M. | Marketman. | First. | Blowing systolic murmur at apex; old cardiac trouble. | Same at discharge. | " | 21 | Relief after 12 doses, 120 grs.; complete in 32 hours. | 7 | (1.) Acid 3 days, 206 grains. (2.) Acid 2 days; fleeting pains between attacks; pneumonia of right lower lobe. | " |
| 40 | I. K. | 19 | M. | Polisher. | Second. | Heart rapid; valvular quality not well marked. | Systolic murmur at apex; normal at discharge. | " | 2 | (1.) Relief in 2 days; complete in 3 days. (2.) Complete relief in 1 day. | 21 | (1.) Acid 3 days, 213 grains; nausea, ringing in ears, deafness, herpes labialis, occasional fleeting pains. | " |
| 41 | H. S. | 22 | F. | Domestic. | " | Normal. | Normal. | Chiefly muscular. | 21 | Relief in 1 day; in 3 days had "use of joints not known for months." | 14 | Acid 3 days, 146 grains; iron. | " |
| 42 | C. O. R. | 49 | F. | " | First. | " | " | " | 5 | Relief in 1 day, 153 grs.; complete in 3 days. | 31 | Acid 3 days, 213 grains; iron. | " |
| 43 | W. P. | 42 | M. | Carpenter. | Second. | " | " | " | 21 | Relief in 1 day; complete in 3 days. | 23 | Acid 3 days, 230 grains; shoulder remained stiff; treated by electricity and friction. | " |

CASES TREATED WITH SALICYLIC ACID, IN WHICH THE HEART WAS EXAMINED AND ITS CONDITION RECORDED *Continued*.

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACK. | STATE OF HEART AT ENTRANCE. | STATE OF HEART WHILE IN HOSPITAL, AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC. | CONDITION ON DISCHARGE. |
|---------|-------|------|------|-------------|-------------------|---|---|-----------------|----------------------------|---|-------------------|--|-------------------------|
| 56 | M. M. | 19 | F. | Domestic. | First. | Palpitation, with precordial pain before entrance; none after; no murmur. | Normal. | Acute. | 10 | (1.) Relief 16 doses, 160 grs.; complete relief in 3 days, 270 grs. (2.) Complete relief in 1 day, 100 grs. (3.) Complete relief in 1 day. Relief in 1 day, 180 grs.; complete in 2 days. | 17 | (1.) Acid 5 days. (2.) Acid 1 day. (3.) Acid 5 days. Acid 31 days; chronic synovitis of knee; tinct. iodine and blisters locally; potass. iodid. | Well. |
| 57 | W. C. | 39 | M. | Sailor. | Second. | Not examined. | Slight prolongation of aortic systolic sound; pain over precordia; normal at discharge. | " | 2 | | 52 | | " |
| 58 | E. C. | 27 | F. | Housewife. | " | Mitral systolic sound prolonged; aortic sounds, faint. Not examined. | Normal. | " | 2 | Relief in 1 day. | 8 | Acid 2 days; salicine 6 days; severe uterine hemorrhage; subacute pain in shoulder remained. | Relieved. |
| 59 | M. M. | 16 | F. | Domestic. | First. | Not examined. | " | " | 14 | Acid 1 day, with relief; complete relief in 2 days. | 4 | Acid 2 days. | " |
| 60 | E. G. | 39 | F. | " | " | Heart irregular. | " | Subacute. | 21 | (1.) Relief in 3 days; complete in 4 days. (2.) Relief in 2 days. | 12 | (1.) Acid 4 days. (2.) Acid 2 days; slight recurrence. | Well. |
| 61 | E. L. | 40 | F. | " | " | Heart irregular and intermittent. | " | Acute. | 11 | Relief in 2 days. | 11 | Acid 2 days; delicious after taking acid one day; alcoholism? subacute pain in knee at discharge. | Relieved. |
| 62 | M. D. | 22 | M. | Laborer. | " | Mitral systolic murmur. Normal. | Same at discharge. Normal. | " | 4 | Relief in 1 day; complete in 3 days. | 13 | Acid 3 days, 320 grains. | Well. |
| 63 | B. C. | 42 | M. | " | " | | | " | 14 | Relief in 1 day; complete in 5 days. | 14 | Acid 5 days; pneumonia. | " |

CASES TREATED BY SALICYLIC ACID, IN WHICH THE CONDITION OF THE HEART WAS NOT RECORDED

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACK. | KIND OF ATTACK. | DAYS SINCE BEFORE ATTACK. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS: DAYS UNDER TREATMENT; WHOLE AMOUNT OF ACID TAKEN, ETC. | CONDITION ON DISCHARGE. |
|---------|-------|------|------|-----------------|---------------------|-----------------|---------------------------|--|-------------------|---|-------------------------|
| 64 | H. F. | 25 | M. | Brakeman. | Third. ¹ | Subacute. | 9 | Acid 8 hours, with relief. | 82 ² | Acid 16 days; alkaline treatment 80 days previously, with partial relief; acid caused slight nausea; irritis. | Well. |
| 65 | D. C. | 24 | M. | Laborer. | First. ³ | Acute. | 14 | Alkaline treatment 3 days, with some relief; acid one day, free from pain. | 21 ⁴ | Acid 5 days; ringing in ears; deafness. | " |
| 66 | A. B. | 36 | M. | Painter. | Fifth. | Subacute. | 4 | Relief in 2 hours. | 12 | Acid 3 days; some nausea and headache. | " |
| 67 | K. H. | 23 | F. | Domestic. | First. | Acute. | 3 | Complete relief in 3 days. | 22 | Acid nine days; nausea; headache. | " |
| 68 | F. D. | 19 | F. | " | " | Subacute. | 4 | Relief in 1 day; complete in 5 days. | 7 | Acid 7 days. | " |
| 69 | S. S. | 27 | M. | Cigar maker. | " | Acute. | 3 | Complete relief in 3 days. | 20 | Acid 14 days; slight return of pain; stayed in hospital for abscess and sore throat. | " |
| 70 | J. W. | 43 | M. | Longshoreman. | "Several" before. | Subacute. | 5 | Relief in 3 days. | 37 | Acid 21 days; localized swelling after acute stage; tinct. iodine, blisters. | " |
| 71 | J. C. | 60 | M. | Painter. | Third. | Acute. | 14 | Complete relief in 5 days. | 17 | Acid 5 days; improving on entrance. | " |
| 72 | W. C. | 37 | F. | Domestic. | Second. | Subacute. | 20 | Relief in 2 days; complete relief in 3 days. | 35 | Acid 3 days; tendency to become chronic. | " |
| 73 | J. S. | 38 | M. | Clerk. | " | Acute. | 20 | Complete relief in 4 days. | 33 | Acid 15 days; caught cold; slight recurrent attack. | " |
| 74 | E. S. | 48 | F. | Domestic. | " | Acute. | 7 | Complete relief in 2 days. | 14 | Acid 3 days. | " |
| 75 | M. A. | 64 | M. | Laborer. | First. ⁵ | " | 6 | Relief in 1 day; complete in 5 days. | 11 | Acid 8 days. | " |
| 76 | M. A. | 22 | F. | Domestic. | Second. | " | 6 | Complete relief in 2 days. | 13 | Acid 5 days; severe attack. | " |
| 77 | M. L. | 20 | M. | Painter. | " | " | More or less for 60 | Relief in 2 days. | 24 | Acid 8 days; persistent slight pain in shoulder; no swelling; vomiting. | Relieved. |
| 78 | J. C. | 35 | M. | Laborer. | First. | " | 4 | Relief in 2 days. | 23 | Acid 5 days; occasional intermittent pain after; much headache; slight nausea. | Well. |
| 79 | J. M. | 30 | M. | " | " | Subacute. | 90 | Relief in 1 day; complete in 15. | 23 | Acid 15 days; mild case. | " |
| 80 | F. C. | 38 | M. | " | Second. | Acute. | 14 | Relief in 1 day; complete in 2 days. | 15 | Acid 12 days. | " |
| 81 | H. K. | 28 | M. | " | Third. | " | 13 | Complete relief in 2 days. | 7 | Acid 7 days; small doses. | " |
| 82 | J. B. | 18 | M. | Brass finisher. | First. | Subacute. | 24 | Complete relief in 4 days. | 38 | Acid 5 days; greatly debilitated; stayed in hospital for treatment; tonics. | " |
| 83 | E. G. | 33 | M. | Laborer. | Second. | Acute. | 2 | Relief in 1 day; complete in 2 days. | 18 | Acid 7 days; slight return in left hip; iron and quinia. | " |
| 84 | F. F. | 30 | M. | " | First. | General pain. | 60 | Relief in 3 days. | 22 | Acid 6 days; tonics. | " |
| 85 | M. A. | 22 | F. | Domestic. | Second. | Subacute. | 4 | Complete relief in 1 day. | 14 | Acid 9 days. | " |
| 86 | M. A. | 22 | F. | " | Third. | Acute. | 4 | Relief 1 day; complete in 2 days. | 10 | Acid 5 days; tonics, iron and quinia. | " |
| 87 | J. C. | 61 | M. | Laborer. | " | " | 6 | Relief in 2 days, complete. | 9 | Acid 8 days. | " |
| 88 | F. S. | 43 | M. | Teamster. | First. | Subacute. | 6 | Relief in 3 days; complete in 4 days. | 7 | Acid 7 days. | " |
| 89 | F. S. | 21 | M. | Nurse. | " | " | 4 | Complete relief in 1 day. | 3 | Acid 1 day; mild case. | " |
| 90 | M. R. | 41 | F. | Laundress. | Many before. | Acute. | 3 | Relief in 1 day; complete in 2 days. | 19 | Acid 3 days; debilitated. | " |

Father died of heart disease.

18 after acid.

3 Mother died of heart disease.

2 52 after acid.

1 Family rheumatic.

CASES TREATED BY SALICYLIC ACID, IN WHICH THE CONDITION OF THE HEART WAS NOT RECORDED (Continued).

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACK. | STATE OF HEART WHEN AT HOSPITAL, AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF ACID. | DAYS IN HOSPITAL. | REMARKS: DAYS UNDER TREATMENT, WHOLE AMOUNT OF ACID TAKEN. | CONDITION ON DISCHARGE. |
|---------|---------|------|------|---------------|-------------------|--|-----------------|----------------------------|---|-------------------|--|-------------------------|
| 91 | M. R. | 19 | F. | Domestic. | First. | | Acute. | 28 | (1.) Relief in 3 days. (2.) Complete relief in 6 days. | 45 | (1.) Acid 6 days. (2.) Slight recurrence; acid 6 days; tendency to become chronic. | Well. |
| 92 | D. McC. | 19 | M. | Laborer. | " | | Subacute. | 28 | Complete relief in 2 days. | 25 | Acid 9 days; slow convalescence; electricity. | " |
| 93 | M. F. | 13 | F. | " | First. | | " | 14 | Relief in 1 day; complete in 2 days. | 23 | Acid 4 days; mild case. | " |
| 94 | M. F. | 13 | F. | Nursery girl. | Second. | | Acute. | 12 | Complete relief in 2 days. | 14 | Acid 14 days. | " |
| 95 | E. G. | 23 | M. | Laborer. | " | | Subacute. | 1 | Complete relief in 1 day. | 16 | Acid 5 days. | " |
| 96 | E. S. | 30 | F. | Housewife. | First. | | Acute. | 5 | Salicine 2 days; 230 grains; slight relief; acid gave complete relief in 2 days. | 10 | Acid 10 days; mild case. | " |
| 97 | E. S. | 30 | F. | Housewife. | First. | | Acute. | 5 | Salicine 2 days; 230 grains; slight relief; acid gave complete relief in 2 days. | 24 | Salicine 37 hours; acid 19 days; chronic stiffness and slight pain on motion remained; occasional fleeting pain. | Nearly well. |
| 98 | W. K. | 25 | M. | File-cutter. | Several before. | | Subacute. | 8 | Acid 2 days, with complete relief. | 4 | Acid 4 days, 260 grains; slight nausea; mild case. | Well. |
| 99 | M. F. | 46 | F. | Domestic. | First. | | Acute. | 7 | Relief in half a day, 166 grains; complete in 4 days; recurrence; acid 1 day; relief. | 21 | Acid 10 days, 880 grains; recurrence while under small doses; ringing in ears; deafness; headache. | " |
| 100 | J. P. | 22 | F. | " | Second. | | Subacute. | 10 | Relief; small doses 3 days. | 7 | Acid 3 days; mild case. | " |
| 101 | H. J. | 23 | M. | Carpenter. | First. | | Acute. | 4 | Complete relief in 3 days. | 21 | Acid 3 days; tendency to chronic swelling. | " |
| 102 | M. M. | 43 | F. | Domestic. | " | | " | 4 | Relief in 18 hours; complete relief in 3 days. | 23 | Acid 3 days; occasional fleeting pains; thick iodine locally. | " |
| 103 | N. H. | 22 | F. | " | " | | " | 16 | (1.) Relief in 18 hours; complete in 2 days. symptoms. (2.) Complete relief in 4 days of acute | 70 | (1.) Acid 6 days; tonics, iodine, alkalies. Result, chronic rheumatic arthritis. | Relieved. |
| 104 | S. B. | 53 | M. | Blacksmith. | " | | " | 5 | Complete relief in one day. | 11 | Acid 6 days; mild case. | Well. |
| 105 | C. C. | 63 | F. | Domestic. | " | | Subacute. | 6 | Relief in 1 one day; complete in 3 days. | 6 | Acid 5 days. | " |
| 106 | A. E. | 42 | M. | Jeweler. | " | | Acute. | 3 | Relief in 2 days; complete in 8 days. | 6 | Acid 4 days. | " |

CASES TREATED BY SALICINE.

| NUMBER. | NAME. | AGE. | SEX. | OCCUPATION. | NUMBER OF ATTACK. | STATE OF HEART WHEN AT HOSPITAL, AND AT DISCHARGE. | KIND OF ATTACK. | DAYS SICK BEFORE ENTRANCE. | TIME TO RELIEF, AND AMOUNT OF SALICINE. | DAYS IN HOSPITAL. | REMARKS. DAYS UNDER TREATMENT, WHOLE AMOUNT, ETC. | CONDITION ON DISCHARGE. |
|---------|---------|------|------|---------------|-------------------|--|-----------------|----------------------------|--|-------------------|--|-------------------------|
| 107 | P. M. | 25 | M. | Plasterer. | First. | Normal. | Normal. | 7 | Relief in 1 day, 150 grains; complete relief in 5 days. | 7 | Salicine 7 days; appetite improved while under treatment. | Well. |
| 108 | D. S. | 19 | M. | Lithographer. | Second. | Normal. | Normal. | 5 | Relief in 2 days, 370 grains; complete relief in 5 days. | 9 | Salicine 7 days, 1240 grains; excellent appetite when pain ceased. | Well. |
| 109 | E. McM. | 25 | F. | Cook. | First. | Normal. | Normal. | 21 | (1.) Relief in 4 days, 520 grains; complete in 9 days. (2.) Recurrence; relief in 4 days. | 24 | (1.) Salicine 9 days. (2.) Salicine 7 days. | Well. |

1 Mother rheumatic; father died of heart disease.

